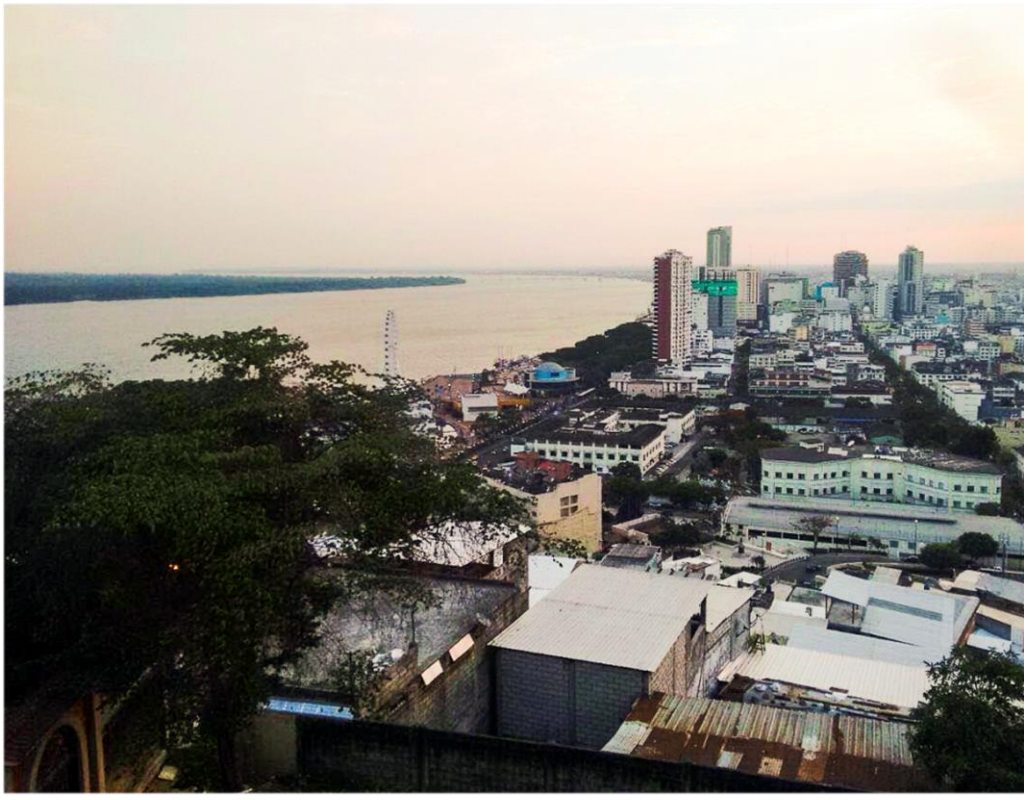
Sveriges lantbruksuniversitet
Swedish University of Agricultural Sciences

Faculty of Natural Resources and Agricultural Sciences

Drops of knowledge

– A case study of the private water market in Guayaquil, Ecuador

Josephine Biro



Department of Urban and Rural Development
Master's Thesis • 30 HEC
Rural Development and Natural Resource Management - Master's Programme
Uppsala 2018

Drops of knowledge
- A case study of the private water market in Guayaquil, Ecuador

Josephine Biro

Supervisor:	Örjan Bartholdson, Swedish University of Agricultural Sciences, Department of Urban and Rural Development
Assistant Supervisor:	Luis Dominguez, La Escuela Superior Politécnica del Litoral, Facultad Ciencias de la Vida
Examiner:	Kjell Hansen, Swedish University of Agricultural Sciences, Department of Urban and Rural Development

Credits: 30 HEC

Level: Second cycle, A2E

Course title: Master's thesis in Rural Development and Natural Resource Management

Course code: EX0777

Programme/Education: Rural Development and Natural Resource Management – Master's Programme

Place of publication: Uppsala

Year of publication: 2018

Cover picture: Guayaquil and Río Daule. Photographer: Josephine Biro, January 2018.

Online publication: https://stud.epsilon.slu.se

Keywords: Tap water, privatization, concession contract, governmentality, water strategy, Guayaquil, Ecuador.

Sveriges lantbruksuniversitet
Swedish University of Agricultural Sciences

Faculty of Natural Resources and Agricultural Sciences

Department of Urban and Rural Development

Abstract

Many funtions like infrastructure and resource management in Latin America are governed by the state, but lately there seems to be a shift in governance in favor for private actors. One example where this is seen is in the city of Guayaquil, Ecuador where a privatization of the water market has taken place by the signing of a 30 year long concession contract between the state owned authority EMAPAG-EP, La Empresa Municipal de Agua Potable y Alcantarillado de Guayaquil - Empresa Pública, and the private company Interagua. The shift in management has brought profit interests into the local water market, and has contributed to increase the control and power for Interagua, where the same has decreased for the state. In addition, it is possible to see a stronger influence of neo-liberal governmentality in the water market today than before due to this shift. Even though Interagua has improved the water situation in Guayaquil there are still remaining problems. This makes it difficult for individual households to obtain updated information about the quality of the tap water and to trust the authorities and their information. Therefore, the households have to use their own knowledge and draw from their previous understanding of the water problems as well as develop different strategies to reassure that they can obtain potable water. This opens up space for private sellers of water purification systems to operate, make profit and reinforce the old perceptions regarding unpotable tap water. The sellers' arguments and information of why someone needs a purification system is not regulated and highly questionable. This thesis explores how selected households perceive their water situation, and how their knowledge and understanding of it can be connected to the private sellers' business and the overall shift in governance between EMAPAG-EP and Interagua.

Keywords: Tap water, privatization, concession contract, governmentality, water strategy, Guayaquil, Ecuador.

Acknowledgements

This thesis has been possible to write thanks to many people in Ecuador and Sweden. I would like to express my deepest gratitude to you.

Luis Dominguez for hosting me at ESPOL, La Escuela Superior Politécnica del Litoral,
David Matamoros, Fransisco Torres and *Indira Yadira Nolivos Alvarez* for being my contact persons at ESPOL, La Escuela Superior Politécnica del Litoral, and for helping me to arrange several interviews,
Marino Guala Alvarado, for being my driver and taking me safely to various locations in Guayaquil,
Carmen Menacho, Maria Emilia Mendoza and *Milen Arias* for being my translators in the field,
Örjan Bartholdson, my supervisor at SLU, The Swedish University of Agricultural Sciences for advice and support throughout the working process with this thesis,
Kjell Hansen and *Lousie Arbin* from SLU, The Swedish University of Agricultural Sciences as my opponents who have contributed with valuable feedback,
the interviewees for their time and willingness to participate and,
my family and friends for their endless support during this working process, both in Ecuador and Sweden.

Thank you.

Uppsala, Sweden, September 2018.
Josephine Biro

Table of contents

Table of figures

Abbreviations

ARCA	Agencia de Regulación y Control del Agua
ECAPAG	La Empresa Cantonal de Agua Potable y Alcantarillado de Guayaquil
EMAPAG-EP	La Empresa Municipal de Agua Potable y Alcantarillado de Guayaquil - Empresa Pública
ESPOL	La Escuela Superior Politécnica del Litoral
SENAGUA	Secretaría del Agua
SLU	The Swedish University of Agricultural Sciences

1. Introduction

Difficulties with accessing potable tap water has for a long time been a problem for the people living in Guayaquil, Ecuador. Before 2001, the public authority EMAPAG-EP, *La Empresa Municipal de Agua Potable y Alcantarillado de Guayaquil - Empresa Pública*, had the responsibility for all water infrastructure as well as cleaning and distributing water to the end users, namely households and industries in Guayaquil. Due to a chaotic water management and distribution at this time, where water did not reach all parts of Guayaquil, and even if it did there was uncertainty about the water quality, EMAPAG-EP needed alternatives in order to improve the situation. Therefore, a concession contract was announced which the private company Interagua gave a bid for. In 2001 the concession contract was formulated and signed by the two actors with a validity of 30 years (ECAPAG and International Water Interagua CIA. LTDA, 2001, Inter-American Development Bank, 2006). This meant that Interagua, with financial support from the World Bank and the Inter-American Development Bank, privatized the water market and took over the responsibility for all water related services in Guayaquil (Swyngedouw, 2005. Hall and Lobina, 2002). In this process EMAPAG-EP became a regulatory authority with control functions to secure that Interagua improved the water services according to the concession contract. This is a unique situation in Ecuador since it is only in Guayaquil that this type of private management regarding water services is to be found (Matamoros Garcia. D, et al,. 2013).

A state owned actor like EMAPAG-EP has functioned as a counterpart versus Interagua in order to govern the development of water services. Even though EMAPAG-EP regulates and controls Interagua in a correct way, the shift in governance has meant that the power, assets and control from the state has decreased in favor of letting in a private actor to the local water market. Involving a private actor like Interagua seems to have been the only option for improvement since EMAPAG-EP was out of other alternatives of

how to improve the situation alone. This has led to a development of the water infrastructure and an improved water situation, but it has also brought a form of neo-liberal governmentality as will be discussed in this thesis. It has therefore had implications for the governing actors EMAPAG-EP and Interagua but also for the water users, namely households in Guayaquil, and how they understand their water situation.

Even though the water situation has improved substantially since the time before 2001 there are still remaining problems with water supply and the quality of the tap water as well as individual perceptions of that the water is still not safe to drink. This means that people living in Guayaquil has different strategies in order to obtain what they concider to be potable water. These strategies are used on a daily basis since people do not believe that the tap water is potable, even though Interagua has stated that it is. The households in Guayaquil demonstrate a lack of trust for the governing actors and the information they provide and it seems to be a lack of sufficient information coming from these actors. That people in general lack trust for the government is common in the Latin American context as other studies have shown (Blind, 2006. World Bank, 2010. Lafuente et. al. 2012) and the trust for the water authorites in the case of Guayaquil does not seem to be an exception. This means that people has to evaluate the water situation themselves and tries to make sense of it by drawing from past understanding and lived experiences of water problems when understanding their current water situation. This creates an uncertainty and a knowledge gap, since the accessible information about tap water and the water situation is scarce and distorted.

One of the strategies for obtaining potable water used by the households in Guayaquil is to buy a water purification system or filter. These products are offered as a solution to the remaining water problems and sold by private companies and their sellers that operate without constraints in Guayaquil. The sellers provide different explanations and arguments why someone is in need of their products and they can do demonstrations, which according to

the sellers can show the current level of contamination in the tap water. They also argue that their products can help to purify the water. Due to the lack of information from EMAPAG-EP and Interagua, as well as the distorted information and knowledge gap among the households, theses sellers can approach the households and reinforce a picture of the tap water as contaminated in order to convince the households that there is a need for this type of products. Among the households in Guayaquil some people believe the sellers, while others do not. Why there are different responses to a seller's arguments will be investigated in this thesis as well as the sales strategies that the sellers use in order to promote their products.

This study is framed in the privatization process and the new type of governance that is seen in Guayaquil's water market. A more direct focus will be put on people's knowledge and notion of risk, how a knowledge gap arise and how it is exploited by commercial actors, i.e. the private sellers of water purification systems. This has had various implications for how people cope with their water situation, strategies and related practices, but also how the roles of EMAPAG-EP and Interagua are understood.

1.1 Objective and research questions

Objective

The objective of this study is to investigate what Interagua's entering on the local water market in Guayaquil has meant for both Interagua and for EMAPAG-EP since this has brought a new form of governance, including more private interests today compared with the time before 2001. Also, as stated in the introduction there are different strategies that the households use in order to assure that they have, what they see, as potable water. One strategy is to buy water purification systems and filters from private sellers who promise the households that their products can solve the difficulties of accessing clean tap water. Therefore, this study explores the relationship and interactions between sellers and households with the objective of explaining why this relationship exists and what the consequences of it are.

In order to do so, it is necessary to first understand what type of information and knowledge the households have about their tap water and how they interpret the water situation before they are approached by a seller.

Research questions

The following research questions are explored in this study:

- What are the implications of the privatization of the water market for selected households and the governing actors Interagua and EMAPAG-EP in the city of Guayaquil?
- What alternative strategies and practices do households in Guayaquil use to access clean and potable water?
- How does the uncertainty about tap water as well as the scarce and distorted information about it affect the households?
- How do the households act in relation to the insufficient information, specifically when being approached by a seller of water purification products?

1.2 Theoretical perspectives

1.2.1 Hermeneutics and structuration

Understanding how and why the households act in the ways they do in order to cope with the problems of obtaining clean tap water and how the households have developed their strategies to obtain potable water is central in this thesis. In order to grasp and contextualize people's perception and action this study will use the concept of life-worlds. This means that a depiction of how the water problems are understood by the people themselves will be looked for. In order to explore these life-worlds, I have drawn on theories of hermeneutics and structuration.

Hermeneutics deals with how people interpret aspects both within and outside their own life-worlds (Alvesson and Sköldberg, 2009). Alvesson and Sköldberg (ibid: p. 101) mean that *"we glide back and forth between the*

"old" aspect imposed on the text in the shape of preunderstandings, and the new understanding"[1] which in the water situation in Guayaquil has been the case since the interviewed people has a preunderstanding of the water problems, but due to new water problems or improved water services a new understaning is being shaped and added to the old understanding of this. Also, in order to understand their own current situation, the people draw on their past understanding, hence gliding back and forth on this scale of how to understand the water problems (Alvesson and Sköldberg, 2009). Using hermeneutics therefore makes it possible to approach the question of *how* the water situation appears to the individual members of households in Guayaquil and what the people's understanding of this condition is.

Giddens uses the theory of structuration to explore people's intentional and pre-reflexive actions and how the aggregated effect of these actions create, reproduce and transform structures (Giddens, 1986). Here, I will address both how social reproduction and social transformation can affect people's notions of the state and the private companies. Social reproduction explains how social order is "*reproduced over time by people continuing to act in ways inherited from the past*" (Inglis, 2012, p. 208) whereas social transformation explains "*how social order is changed by people, intentionally or unintentionally, through their interactions*" (Inglis, 2012, p. 208). Structuration can therefore contribute to the understanding of *why* the households think and act in a specific way regarding potable water and actors in the water market. It includes ideas about how experiences, structures and institutions affect and frame thoughts and actions taken in present time. This becomes important when looking at how the strategies for obtainging potable water has been developed, changed and/or maintained over time by the households in Guayaquil (Inglis, 2012).

1.2.2 Governmentality

The households, sellers and the governing actors Interagua and EMAPAG-

[1] *The text* is referring to written or spoken words or as acts that create a meaning to us (Alvesson and Sköldberg, 2009).

EP have different roles and relationships with each other, which means that they influence, lead, direct or guide one another. The concession contract in itself is a leading and binding document which regulates the relationship between Interagua and EMAPAG-EP. In order to understand these relationships between the households, the sellers as well as EMAPAG-EP and Interagua, I will draw on Foucault's concept of governmentality (Foucault, 1991) and how it is interpreted by Mitchell Dean (2009). Foucault defines governmentality as the *"conduct of conduct"* which refers to how the discourse and implementation of policies frame and create specific forms of interpretations, actions and interactions (Dean, 2009, p. 17). The policies' discourses frame and affect people's actions, norms and values. This means that governance can have a strong impact on how people act and understand what is happening around them, and could therefore contribute to affect and form the so called life-worlds. In this case it may implicate that there is a possibility for the governing actors Interagua and EMAPAG-EP to steer and affect norms and practices about tap water that the households believe in. In other words, governance may affect human conduct strongly and shape the form of rationality of the actors (or at least shape what seems rational when guiding many actors or individuals at the same time). Dean (2009) argues that the governmentality contributes to our expectations and demands that we have on others or ourselves. How one can govern or be governed therefore implies questions of power, agency, communication, regulation and mechanisms for control. How we as individuals think, act and respond to a problem is therefore highly influenced by these policies and practices of governance since they have contributed to create a discourse for what is being communicated (Dean, 2009). Governmentality will be used in the analysis in order to highlight how EMAPAG-EP and Interagua frame and form the actions of each other as well as of household members and the sellers of water purification systems. How the sellers try to convince the households into buying their products, and therefore exercising governance, will be explored by using the theory of governmentality. In addition, how the households respond to this by e.g. questioning and even resisting both the information from the

authorities and the sellers of water purification systems will be looked into.

1.2.3 Globalisation, neo-liberalism and accumulation by dispossession

During the last decade space and time has been increasingly compressed on a global scale (Baumann, 1998. Blind, 2006). Transportations, communications and economic transfers have both become faster and denser and the world's different markets are closer and more integrated with each other. This is due to the late modernity of globalisation and it makes the distance between both people and markets smaller (cf. Callinicos, 2009). These arguments are demonstrated in the case of Interagua since the company is part of the French owned concultancy firm Veolia, but operates in the local water market in Guayaquil, Ecuador.

The dominating ideology of the ongoing form of globalisation is neo-liberalism (ibid). This suggests that economic growth and the intented improvements of people's well-being is supposed to come from the establishment of free markets, free trade, strong private property rights and the privatization of public assets. It also implies that political and economic development is supposed to be engineered with less involvement from the state than previously (Bratton and Denham, 2014). In Guayaquil the state owned and public actor EMAPAG-EP was responsible for all water related services before 2001. One can therefore say that a state owned monopoly was in charge of the water services before, but due to the lack of knowledge in this organization, another actor was looked for and Interagua was contracted through the concession contract. This has not meant that the monopoly is broken, rather that it went from being regulated by the state to a private company from abroad. It is therefore of interest to look at this development through the lenses of globalisation and neo-liberalism.

Harvey's (2006) concepts of uneven geographical development and accumulation by dispossession well illustrate the form of global market ideology, which is dominant within the ideology of neo-liberalism. Due to globalisation it is possible for companies from abroad to penetrate local

markets and to position themselves at the same, or at least a similar, level and with equal power as the local governments. Ferguson and Gupta (2002) are talking about this as a transnational, or neo-liberal, governmentality. This is shown by the case of Interagua, since the company is part of the international firm Veolia and influences the local outcomes related to water governance in Guayaquil. Also, Interagua gained a similar position as EMAPAG-EP when the 30 year long concession contract was signed. Private companies exist to make profit, and as the theory of accumulation by dispossession suggests the assets and the generated profit are not staying where they were created, but are moved into a capitalistic commodity circulation, leaving little revenue and well-being at the place of origin of production (Harvey, 2006). If and how this applies to the topic of the private water market in Guayaquil and what consequences it may bring will be closer looked at by using these theories.

1.3 Methodology

1.3.1 How the study came about

Thanks to the EuroInkaNet scholarship I had the opportunity to spend six months in Guayaquil between October 2017 and March 2018. I was able to explore the topic of the private water market when I had arrived in Guayaquil and was invited to a friend's house for dinner. When I arrived at the house the family had a meeting with two sellers who came from a company that was selling water purification systems and I was invited to listen to their presentation. The sellers were dressed in blue shirts and a tie and gave a professional impression. They talked about how contaminated the tap water in Guayaquil is and what the consequences can be if one drinks this water. They showed various pictures of people that were sick with cancer and other serious illnesses, saying that this was caused by drinking and using untreated tap water. They made a demonstration of the water purification systems that they sold and used a technical device to test the water from different taps in the house to show the current level of contamination (see figures 4-5 in Appendix 1 for the result of this test).

During this meeting the sellers appeared to have knowledge about the water situation and had what at the time seemed like reasonable arguments. By acting professional a sence of trust could possibly be built up between the sellers and the family and I believe that the the sellers therefore strongly could insist that the family was in need of their products. The family on the other hand also demonstrated to have knowledge by using counterarguments and criticising the information. When the family did so, the sellers referred back to the photos of sick people and often glanced at the glass of water where the divice had been put, now showing a mix of water and something black at the top and bottom of the glass. Later the family explained to me that the water test that the sellers performed was false, they did not trust in the results of it and there was nothing wrong with their tap water. This situation made me take a critical stance towards both the sellers and the family: Who was right and who had the right knowledge regarding the tap water? Did the sellers try to scare the family by showing pictures of sick people and performing the test and thereby convincing them into buying their products?

After doing a literature review of the water situation in Guayaquil and knowing more about the privatization of the water market in 2001 through the concession contract, I decided to frame the study in terms of water governance. The sellers and households beacame an entrance to this subject and it became possible to study the social and cultural concequences of bad water quality and how households cope with this situation. This was done since I had been part of the sales meeting explained above as well as I knew that the privatization of water services has only been seen in Guayaquil and not in other Ecuadorian cities (Matamoros Garcia. D, et al,. 2013) which made this topic interesting for me.

In addition, living in Guayaquil and not drinking the tap water myself made me understand at a deeper level what a struggle it is for the households to obtain potable water as well as to gain sufficient and trustworthy information about it. The interviewees and I have shared the same problem

and been in the same environment. By combining my personal experiences and trying to understand people from various households and using the life-world concept it has been possible to interpret how people view their actions and thoughts related to water access. I believe this has been beneficial for the study.

1.3.2 Data collection and sampling

The data collection in this study has been of qualitative nature and conducted through semi structured interviews and participant observations in the field. This has allowed me to explore and at a deeper level understand the perspectives given by the interviewees. It has been possible to be flexible and to bring out what has been important and meaningful for the individual interviewee and by that picturing the complexity of the current water situation in Guayaquil (Creswell, 2009). In total 20 interviews were carried out with the following target groups and distribution: Households (13 interviews), sellers or representatives from companies that sell water purification systems (4 interviews) and governing actors (referring to Interagua and EMAPAG-EP, 3 interviews).

I did not know anyone in Guayaquil before the study started and hence the sampling of interviewees was difficult initially. However, once I got to know people I started interviewing them and the people they lived with. By doing so, it was possible to categorize groups of people into households. In this study, an individual household is therefore defined as people living together in the same house or apartment, either as a family or as a group of friends.

Many of the households that I have interviewed labeled themselves as middle class (used as an emic term). Some etic observations supporting this are that all visited households live in houses or apartments with well constructed walls and roofs, the home itself is well furnished and has a range of different electronics e.g. televisions, smart phones and computers.

They are owners of one or several cars and have knowledge about foreign countries, either by visits or having extended family abroad. As in other social classes, there is a lower and upper division. In the Ecuadorian context and specifically observed in this case is that is it common for the upper middle class to have a pool in the garden or live in a gated community where one has to go through a guard post before entering the house or apartment. In addition, some households have also been able to employ a person from outside the family, working as a gardener or housekeeper. These observations give indications of an economic pre-eminence which distinguishes these middle class households from lower social and economic classes.

Choosing households that referred to themselves as middle class has from a methodological point of view been beneficial. It was easy for me to get in touch with them and since they could refer me to similar households a snowball sampling could be put to practice. Also, since the study has focused on the household and seller interaction, it has been of importance to include households that have had the economic capacity to buy purification systems from the sellers. Focusing on the middle class can in addition be a strength since this group is growing around the world but often forgotten in case studies like this due to the priority given to other groups of people (Favero, 2005. Hannerz, 2016).

The size of the households varied between 2-8 people. A map was created to visualize where in Guayaquil the households lived. Even though it was difficult to account for the interviewees' background the map made it possible to assert that they were living in different parts of the city (see figure 3 in Appendix 1). This has been of importance since problems with the tap water vary with geographical location and due to the fact that sellers work in different parts of the city at different times. The interviews with the households meant that I met the entire household in their home when they could receive me. If a meeting with the entire household was not possible I met with one member of the household, either in the home or another place

that suited him or her. Carrying out some of the interviews in the household's own home made it possible to observe taps, tanks, water purification systems and filters that were used on a daily basis (see figures 6-8 in Appendix 1). These interviews lasted between 15-45 minutes depending on the interviewee's information and interest in the topic.

When it comes to the sampling of sellers and representatives from Interagua and EMAPAG-EP I received recommendations from my contact persons at ESPOL, La Escuela Superior Politécnica del Litoral, concerning whom I could meet with. My contact persons also helped me to arrange these interviews. The interviews with sellers from private companies and representatives from Interagua and EMAPAG-EP took place at their offices and lasted between 45-90 minutes. These interviews were in depth-interviews and longer compared with the households since the interviewees were well-grounded in the topic and had a lot of information regarding water governance, water distribution and sales strategies. These interviews included demonstrations of the water purification systems and filters as well as showing maps over the water distributions system, treatment plants and statistics over water flows and quality.

All interviews were recorded and held in either English or Spanish. For the interviews held in Spanish I was accompanied by a translator to reassure I could understand everything even though I have basic knowledge of the language. Working with a translator meant that I did not have the same control over the conversation and that some things got lost in translation. However, due to the fact that I listened several times to the recordings and could translate the parts in Spanish it was possible to account for this. Also, I worked with three translators in order to be more flexible and enable that the interviews could be done since many of the interviewees confirmed the interview with short notice. The translators had different interest in the topic and different knowledge of the English language. These things could have had implications for the results. In order to account for this I briefed the translators in the same way before each interview and also talked with them

afterwards. In addition, a field diary has been used in order to write down reflections after each interview and all interviews have been transcribed and summarized.

1.3.3 Data analysis and interpretation

The data analysis has been done by listening to the recorded interviews several times, first in a chronological order and later target group by target group (i.e. households, sellers, governing actors). Sorting the material by different themes and highlighting informative quotes in the transcribed material facilitated the analysis (Öhlander, 2011). Comparing similarities and differences within the target groups as well as between the target groups made it possible to see different perspectives and perceptions. By reviewing the themes and quotes in the transcribed material and drawing from a combination of theoretical perspectives (presented in the previous chapter) an analysis and interpretation could be done.

It should be stated that many different people have been involved in this study and the stories about water are just as many as there are individuals.[2] These stories are unique for each person, which means that thoughs about water varies grately and are personal. During the fieldwork, I have perceived the situation in terms of water access and management of the water services as highly caotic and disorganized. However, in order to describe this in this thesis, I have had to summarize and draw on the main understandings of this. Therefore, this thesis might depict the situations as more organized than what is perceived in reality. At the same time, the intention of this study is not to generalize the results on a broader scale. The results cannot be representative for the entire civil society in Guayaquil since the numbers of interviews are too small and geographically restricted. Instead, by listening attentively and analysing the narratives of selected households, sellers and the main actors in the field of water governance in Guayaquil, this study aims at highlighting how these actors perceive the

[2] All interviews represent 57 individuals in total. There are additional and informal conversations that have contributed to a general understanding of the water situation in Guayaquil, but these are not included as primary data.

main problems surrounding the water supply, particularly the alleged lack of clean water, and how these perceptions inform and contribute to the strategies and practices pursued by the actors.

2. Findings from case study

2.1 The privatization of the water market in Guayaquil

Ecuador's largest city is called Guayaquil and has a population of around 2,5 million people (PSIRU, 2018). Here, population growth has taken place at a high rate: in 1890 the population was around 45 000 and hundred years later it reached around 1, 65 million people (Hidalgo,1932. INEC, 1990. Swyngedouw, 2004). Even though Quito is the capital of Ecuador, Guayaquil is referred to as the motor in the national economy and presents new opportunities for people in terms of jobs and market related activities (NE, 2017 A). The city is located at the Pacific coast in the south of Ecuador. This geographical location means that daily temperatures often reach 30 degrees Celsius.

Figure 1: *Ecuador, location in South America. Source: NE, 2017 B.*

Figure 2: *Ecuador, land map. Source: NE, 2017 B.*

In this hot city potable water has historically been difficult to obtain. Going back in history to the 1990´s, Swyngedouw (1995 B) was referring to the situation as ironical: water was flowing through Guayaquil in Río Guayas (the Guayas River), but almost half of the inhabitants did not have access to

adequate or reliable sources of potable water. Water distribution systems and pipes are still today often over 50 years old, sometimes even nearly 100 years old, which means that they are fragile and vulnerable. Hence, the distribution system is not trustworthy: it can break, create leakages, clean water can be mixed with sewage water and the rusty pipes can contaminate the water before reaching the end consumers.

As mentioned earlier, the population growth has taken place at a high rate and the fact that Guayaquil is the motor in the national economy makes the city attractive for migrants. This has caused a strong movement of urbanization with a large increase of people moving to the suburbs and growing outskirts of the city. The existing water systems in these areas are not sufficient for people living there and the continuous urbanization has put more stress on water supply and infrastructure as Swyngedouw (1995 A, p. 317) states: "*population growth [has] outstripped the expansion of the water network*". Work by Swyngedouw (1995 A, 1995 B, 2004) and The Inter-American Development Bank (2006) have shown that it is the poorest people living in these areas that pay the highest price for this migration, both socially and economically, and that there are large inequalities between poor and rich people in terms of water access. It is the poorest people living in the outskirts of Guayaquil with the least developed water infrastructure and least reliable water access that pay higher prices for their water as well as being less water secure compared to people living in the city with well functioning and cheaper water services (Swyngedouw, 1995 A, 1995 B, 2004. The Inter-American Development Bank (2006).

The water systems include provision and distribution of drinking water as well as sewage systems. The latter has been said to be on the verge of a collapse in Guayaquil (Swyngedouw, 1995 B). Decades of political instability and underinvestment from the government led to a dependency on external financing, often coming from international and private companies (NE, 2017 B). In the case of Guayaquil, the private company Interagua gained the concession contract in 2001 (ECAPAC and

International Water Interagua CIA. LTDA, 2001. Inter-American Development Bank, 2006). Interagua is part of the French owned consulting firm Veolia (Interagua, 2017) and provides services related to water and waste management and claims to be a *"global leader in optimized resource management"* (Veolia, 2017). The concession contract that Interagua gained meant that a 30 year long contract was signed and led to that Interagua, instead of municipality (in the form of the public company EMAPAG-EP[3]) took over and now handles the risks, maintenance and administration of all potable water and sewage services in Guayaquil (Inter-American Development Bank, 2006). In addition, a concession contract means that the water infrastructure still belongs to the municipality but is rented and operated by the private actor who is, according to specific targets regulated in the concession contract, responsible for improvements and investments for maintenance and expansion of the system (Sjölander Holland, 2005). This type of contract is the most common way to introduce private actors into the water market (Segerfeldt, 2005).

This situation is unique in Ecuador since it is only in Guayaquil that the water services are taken care of by a private actor alone (Matamoros Garcia. D, et al,. 2013). When the concession contract was announced it was only Interagua that gave a bid and hence there was no competition in terms of obtaining the contract (Swyngedouw, 2004. PSIRU, 2018) and when it was formulated many of the workers from EMAPAG-EP were dismissed from their jobs but later rehired or trained by Interagua (Swyngedouw, 2004).

Similar development with privatization of the water market has occured in other Latin American countries, for example in Bolivia and Argentina. Here, private companies have easily won the contracts due to the low competition, lack of sufficient governance and strong regulators as well as the urgent need to improve the water services. In Cochabamba, Bolivia the situation got serious in the year 2000 when the improvements of the water system

[3] Before the concession contract EMAPAG-EP was called ECAPAG (La Empresa Cantonal de Agua Potable y Alcantarillado de Guayaquil), and was at the time a cantonal company. It later changed into a public municipal company under the name of EMAPAG-EP (EMAPAG-EP, 2018 A).

through privatization led to a rapid increase of the water prices: on average the prices for the poorest people rose by 43% and for the upper middle class by 57%. Examples of increases of prices up to 400% have also been observed (Sjölander Holland, 2005. Segerfeldt, 2005). This was something that the people could not afford and massive protests and violent confrontations broke out in the so called "Water War in Cochabamba". This strong civil reaction led to a cancellation of the contract and that the public actors had to regain the responsibility over the water services (Sjölander Holland, 2005. Segerfeldt, 2005).

There are different opinions wether water privatization is beneficial or not. According to Sjölander Holland (2005) governments in the global South are being strongly advised, and almost forced, into privatization of their water services when they are being granted loans for development from international institutions. Also, loans from international institutions to the private actors can contribute to make these actors economically stronger compared to the local governments. This means that the international institutions granting the loans have much power and can influence the terms and conditions, leaving little space for the governments to have their voices heard. Direct loans to the private side have been observed in the case of Guayaquil since the Inter-American Development Bank gave a loan to Interagua in 1997 in order to prepare the privatization. By this loan, 20 million US dollar was given in order to facilitate the privatization processes and the same amount of money was given for initial investments (Swyngedouw, 2005. Hall and Lobina, 2002). In addition, the World Bank gave a security guarantee worth 18 million US dollars to Interagua when they became a part of the concession contract in 2001. This was supposed to cover political risks and potential economic losses in Ecuador and to create a performance bond[4] (Swyngedouw, 2005. Hall and Lobina, 2002).

[4] A performance bond is a sort of economical guarantee, which in this case means that Interagua was granted money from the World Bank with a promise to complete the constructions and water projects in Guayaquil, i.e. promising to performe according to the contract in exchange of money (The World Bank, 2004).

Letting in private actors can in the end be expensive and it is often the people that has to pay for this type of development by raised water prices, which they may not be able to afford. The high prices can lead to an increased inequality where the poorest people are left behind with little or no improvement regarding their water services, for example as seen in the situation in Cochabamba, Bolivia (Sjölander Holland, 2005). Also, the fact that the water market today is dominated by two private actors, Veolia and Suez that together hold more than two thirds of the private water market, makes it difficult for other companies to compete and offer alternatives in this market (Sjölander Holland, 2005. Swyngedouw, 2005). Perhaps it is not surprising that it was only Interagua that gave a bid for the concession contract since the company is part of Veolia and therefore had a strong market position and little competition to start with.

On the other hand, Segerfeldt (2005) is explaining why privatization is the preferred option when it comes to improving water systems and solving a water crisis. He argues that *"the greater the involvement of the private sector in water supply, the greater the number of people with access to water"* (Segerfeldt, 2005, p. 61). This is explained by that private actors have bigger resources like money and technical knowledge to improve the water services and that the private actors often know better than the public ones how to govern an organization and can hence be more efficient. In addition, the private actors are not bound to a political agenda as the public actors are which can be beneficial for their performance (Segerfeldt, 2005).

In Ecuador the new constitution from 2009 has prohibited water privatization which means that the current concession contract between Interagua and EMAPAG-EP is not valid after the 30 year long period (i.e. after 2031). Up until today there have been demands for a termination of the concession contract from local authorities and people living in Guayaquil. The complaints have mainly been related to costs and quality, and that Interagua has not kept their part of the contract in these aspects (PSIRU, 2018). Regardless if privatization is good or bad, preferred or not, the

following chapters in this thesis aims at exploring what the consequences of the privatization of the water market in Guayaquil has brought for the involved actors as well as the water end users, namely the households in Guayaquil.

2.2 Strategies for obtaining potable water

According to the interviewees from Interagua and EMAPAG-EP, the privatization of the water market in Guayaquil has led to improvements e.g. in terms of a continuous flow of water, cleaning processes, water pressure as well as a more modern way to operate the distribution system. However, there are still remaining problems with water access and people in Guayaquil need to depend on different strategies for obtaining potable water. This study has through a literature review, observations and interviews with selected households in Guayaquil found five strategies that people use in order to obtain what they themselves see as clean and potable water:

1. *Water trucks:* Where one does not know if there is going to be water in the tap or not, or there are no pipes (usually in the outskirts of the city), people depend on water trucks, so called *tanqueros.* The water that the *tanqueros* are selling is often the same water that has been cleaned by Interagua, but due to the distribution problems in these parts of the city, the water cannot reach the households. The *tanqueros* thus act as intermediaries and charge high prices. The main contradiction is that many poor people in the suburbs have to obtain their water in this way and pay higher prices compared to if they could access water directly through the tap or would live in another part of the city (Swyngedouw, 1995 A, B).

2. *Boiling tap water:* If one can access water in the tap, but it is not considered potable, one can boil the tap water in order to assure that contaminants are eliminated. A problem with this is that the distribution system can break, or the water flow can be interrupted or

turned off when reparation work is needed for the pipes, leaving these households without this option in terms of water access. Households can prepare for these situations if they receive information about the water cut in advance and can afford a *cisterna*, a storage tank for extra water. Another problem is that even though the water has been boiled, it might not be enough to eliminate micro bacteria or other contaminants that can survive the 100 degrees Celsius boiling point. According to INEC 's statistical survey from 2010 in which over one million households in the Guayas region participated, this strategy of boiling the water is practiced by almost half of the households in the survey (49,3%). This result suggests that this strategy is the most common one for obtaining potable water in the Guayas region (INEC, 2010).

3. *Using chlorine:* Similar to strategy number two, if there is water in the tap but it is not considered to be potable, one can put chlorine in it to purify it before using or drinking it. According to the same survey by INEC (2010) as mentioned above, this is done by almost 5% of the households participating in the survey. Putting chlorine into the drinking water requires that one has knowledge of how to handle the chemical as well as being aware of the risks and health related issues that can come with it. In addition, it should be mentioned that the water that is cleaned by Interagua and distributed in Guayaquil already has chlorine in it.

4. *Buying bottled water:* To buy purified water at the supermarket or convenience store in large containers or bottles is another strategy. It is practiced by people who live in the city or near a store, which means that the burden of transporting the heavy water containers to one's home can be manageable (done by a quarter of the households according to the INEC survey (2010)). However, it still requires water planning and creates a dependency for the store. In the long

run it can also be expensive and the plastic bottles can create another problem in terms of recycling.

5. *Using purification systems and filters:* If one can afford to make an investment, it is possible to buy a purification system to the home which can be installed in all, or selected, taps. The price varies depending on how many systems are installed and on how advanced the filter or cleaning system itself is. To give an indication, prices between 300 US dollars for the simplest installations in one tap up to 4000 US dollars for an advanced system installed in all taps in a home have been observed in this study[5]. There are private companies that operate in Guayaquil which have specialized in selling and installing this equipment in the individual households' homes. The strategy of filtering the water like this is the least common strategy among households in the Guayas region (only done by 1,4% according to the survey by INEC (2010)). One possible explanation for this is that the systems are expensive and require an investment and is hence not accessible for households with a low economic status. Another explanation, which will be discussed later on, is that some households do not consider the systems as necessary or trustworthy even if they can afford them. In these cases they practice one of the strategies mentioned above since they lack trust for the sellers or for the functions of such a system.

Households can alter between different strategies or use several strategies at the same time in order to become more water secure. However, what one can conclude from these strategies is that water is commodified and sold in various ways in Guayaquil. It also shows the different prices, efforts and levels of knowledge a household has to deal with on a daily basis in order to

[5] The minimum wage for a contracted person who works full time in Ecuador, the so called *Salario Básico Unificado* 2018, is 386 USD per month (El Universo, 2017. Ministerio del Trabajo, 2017). To this minimum wage additional benefits and incomes can be added, landing on a monthly wage of 450 USD for one person (INEC, 2018). Hence buying a purification system can be expensive, and often requires an economic investment.

obtain potable water. It also gives a hint at that water access and economic status are related to each other.

Previous research (mainly done by Swyngedouw since the 1990's) about the *tanqueros* has demonstrated their organization and ways of operation, with inequalities among the people in Guayaquil and a dependency for the *tanqueros* as the results. However, due to a personal interest as well as the lack of previous research in the area, this study has focused on how the private companies and sellers of water purification systems and filters operate and approach their customers, namely the households in Guayaquil and how they respond to this. By having this focus, it is possible to question the level of knowledge and information that the households and sellers have. Since this is a unique situation in Guayaquil compared to the rest of Ecuador, the governing actors Interagua and EMAPAG-EP have been included in this study too. Including them allows for a deeper understanding of how the situation has developed as well as what the consequences are for households and sellers in Guayaquil today. In order to understand this, the narratives from these three target groups will be presented in the following chapter.

2.3 Target groups and their understandings of the water situation

2.3.1 Individual households

None of the households interviewed in this study drink the water directly from the tap untreated and they explain that the tap water is used for cleaning, washing the clothes and dishes, cooking food or personal hygiene. When it comes to the potable water they either boil the tap water, buy water in big bottles at the supermarket or convenience store or has a purification system installed in the home that the tap water goes through before drinking it. When it comes to boiling the water there are different reason and length of time when doing this. In some cases they explain that bacteria and contaminants are eliminated when the water is boiled, but exactly at what time this happens is unknown. Therefore, different households boil the

water for different lengths of time, ranging from a few minutes up to an hour. Also, explanations of what type of bacteria or contaminants there are and how that could reach the tap water varies: the water is already contaminated when it is taken up by Interagua in Río Daule (Daule River, the catchment area) and La Toma (the treatment plant) and is not cleaned properly, the rusty pipes contaminate the water on the way from the catchment area and treatment plant to the houses, the pipes break and mix clean water with sewage water because the distribution system is old and weak, there are animals, plants or mould inside the pipes that generate micro bacteria or that there are too high levels of chlorine or iron in the tap water are common explanations. One man working at an educational center in Guayaquil explained the following:

"You cannot drink the water. All the pipes are under the city and it is normal for me that a lot of bacteria and animals and things are there. I would not trust that they [Interagua] are doing this job to keep the pipes clean. I don't know, but as far as I know the pipes are made of cement. So the cement and the water all the time, it becomes like when the water is not moving, you know this green, it is like a plant or something in the water."

An additional answer for boiling the water is that the household has always done so and it is a habit. Many individuals within the households say that they have been taught by their parents or in school to always boil the water, something that they still do today as adults even though they do not know why or if there is a need to do it. There are also many people who confirm that there is information about the current water situation and improvements done by Interagua and EMAPAG-EP – information which suggests that the tap water is of good quality and potable without any further treatments. However, members of the households argue that it is difficult to obtain the information or that they do not pay attention to this information, e.g. there is no need to frequently check the latest improvements, they forget about the water problems if they seldom occur or they look for entertainment and not facts during their free time. Several persons have referred to themselves and

people in Guayaquil in general as lazy. They say that it might be a problem with the culture and norms, since people cannot always explain why they still practice their old habits, e.g. boiling the tap water. In addition, several members of the households have expressed that they are unhappy with this habit since it is time consuming and requires planning. Therefore, a desire to change it exists, but still it seems like few individuals actively search for information on how to do it. A young man in his late 20's who studies at ESPOL, La Escuela Superior Politécnica del Litoral, framed it in the following way:

"Maybe the problem is me, because I do not search information about it [the current water situation], but I think I should do it. This is the problem of people in Guayaquil, ellos son así, that is the way they are, it is in our culture to not search information."

Another problem is that even if the information is available it is seldom that the people believe in it. There seems to be a lack of trust for EMAPAG-EP and Interagua, how they work and that the water distribution system in Guayaquil has improved since the concession contract was signed in 2001. Hence, the old perceptions of not being able to drink the tap water and habit of treating it are still present. Individuals have also said that they would show more trust if an international, independent organization without economic interests in the question would provide statistics and facts, or if national politicians, e.g. the health minister could support and prove that the information from Interagua was true. A young man in his 30's who is a former student at the university, and who is currently employed by the same university said the following about Interagua:

*"Even if they told me that the water is clean, I think I would continue to boil it just to be hundred per cent sur*e."

The concession contract between Interagua and EMAPAG-EP states that Interagua has the responsibility of cleaning and distributing water in

Guayaquil and that EMAPAG-EP shall work as a supervisor and regulatory authority to assure that Interagua follows the contract. The households' knowledge of this varies greatly. Some persons can explain a lot about the concession contract and the roles of the actors, facts that correlate with the literature review done by this study. Other conceptions that exist but are not correct according to the literature or interviews with the governing actors are that Interagua is a governmental company, that EMAPAG-EP is competing with Interagua or that EMAPAG-EP is the main actor for providing water outside Guayaquil. On the other hand, some interviewees have never heard of EMAPAG-EP and hence express a need for a regulatory authority.

The households have encountered different problems with water distribution and water quality. At times Interagua has to cut the water service to do reparation work, which means that there is not going to be any water in the tap for a few hours up to a day. Individuals from one of the households state that they were without tap water for a week. Individuals from several households mention that they have *a cisterna*, a reserve tank which makes them less vulnerable to water cuts. In addition, several individuals confirm that *tanqueros* still operate in Guayaquil and sell water.

Water cuts are announced between one to five days in advance through the newspapers, news on the TV, social media or by letters and posters in the neighbourhood. This means that the people has to pay attention to these sources of information in order to avoid being without tap water. However, sometimes the water is cut without notice, mostly when the maintenance work is planned for less than a few hours or when unexpected problems in the distribution systems occur. The frequency of water cuts varies depending on what sector Interagua is doing reparation work in. In some sectors it happens a few times per year whereas in others it happens every second week. The water that comes in the tap can sometimes have a brown or white colour. The households speculate about the reasons for this which

sometimes becomes contradictory. Three women who are all students in economics and are living together explained the following:

"Sometimes the water comes out with a little white colour, it is not transparent… It is just white… We do not know why but would like to know, but we do not know who to ask. Some friends have the same situation and they say it is too much chlorine put in the water. This always happens at night."

This is contradicted by the following statement, coming from a sister and brother living together in a gated community in the west of Guayaquil:

"When you open the tap in the morning… El agua es sucia… It is dirty… Como café, color café [like a brown colour]. I think it is bad because it is dirty. The reason is the treatment plants. They close in the night and the plants open in the morning. In the night there is no Cl [chlorine] in the water."

Low water pressure and bad smell are other problems that the households have experienced. Due to the remaining problems with water cleaning and distribution as well as the households various perceptions and levels of trust regarding this, sellers from private companies operate in and around Guayaquil to offer purification systems and filters as a solution to the problems. Many households have met these sellers and there are different experiences from these encounters. Among the households, three main responses to the sellers are found:

1. People who believe the sellers and hence buy the purification systems. They believe that the tap water is cleaned sufficiently in the systems, otherwise they would not have bought them. In some cases individuals have been approached by sellers or recommended by a friend and therefore been convinced into buying it. Other times they have done research about the purification systems and contacted the

seller unbesought. A strong argument from people in this category is that it is more economical to invest in these type of systems than buying water bottles from the store since it is in the long run more expensive.

2. People who believe the sellers, but think that the purification systems are unnecessary and hence continue to boil the tap water or buy it in bottles from a store. They say that they are happy with the ways they obtain potable water and would not like to change their strategy by buying a purification system. It is considered to be unnecessary, and for some, too expensive.

3. People who think that the sellers are lying and doing fake tests during the demonstrations and hence do not buy the systems. These people are the most sceptical ones towards the sellers and they do not believe the demonstrations or facts provided by them. They say that the sellers just want to make profit and that they do not have sufficient or "real" knowledge of the water problems. Instead, they learn a sales manuscript that they are limited to as well as having a few main arguments that they use in order to try to sell the products. The arguments are for some households easy to question or criticize, which makes them doubt the seller to a high degree. These households also claim to have better knowledge about the water in their house than the sellers do. In addition, it is said that having a purification system or filter is a trend, since it is promoted as being healthy or environmentally friendly. Critical households explain that people who want high status buys a purification system or filter regardless of how well it actually performs, as a young woman living in the west of Guayaquil explained:

"If you want a position, or to be cool in the healthy trend, then you have to have a filter."

Buying a purification system or filter is optional, and as explained above there are different responses to this. However, all households have to pay a water tariff to Interagua for the basic water services, i.e. cleaning and transporting the water to the house. Households in this study have said that they consider the water tariff as cheap and that they would react negatively if it was raised. This case study found that smaller households (two to four people) pay around 8-15 UDS per month and larger ones (five to eight people) pay around 25-30 UDS per month for Interagua's water service.

2.3.2 Sellers and their companies

In Guayaquil there are many private companies selling water purification systems and filters for domestic cleaning of tap water. This study includes four of them: Datasocia, Nikken, Incopartes and Helisa. These companies import equipment from abroad, mainly from the United States and sell it locally in Guayaquil. Hence, they are functioning as intermediaries in this trade. They also build and repair the equipment and therefore offer maintenance of the products that they sell. It is common that the companies do not only sell water purification systems but also air filters, cleaning products or domestic goods. Their potential clients are both individual households and the industry e.g. laboratories, hospitals and restaurants. However, this study has focused on the interaction and sales to households.

The sellers' work is often commission based which means that the more a seller sells, the more he or she earns. The educational background is not important for becoming a seller since they get specialized training when entering the company, e.g. by seminars and courses in sales techniques, marketing strategies and how to demonstrate the products. They spend little time reflecting on water management, water properties, how Interagua cleans the water or what the current situation looks like. Some companies encourage their sellers to search for this information themselves. As a result of this, misconceptions and lack of knowledge about water in Guayaquil became evident during these interviews. For example, one seller explained that Interagua sells water to EMAPAG-EP who later distributes and sells it

to the household as a way for EMAPAG-EP to make money. Another seller argued that Interagua is a state owned company. When asked about what type of chemicals are removed from the water and how the purification systems and filters work, explanations were vague.

If the company is big enough it is common to have a store where customers can see the products. Other ways to approach customers is to participate in fairs or to do visits to the households' homes. All sellers who were interviewed stated that they visit all parts of Guayaquil, but that they know where the water problems most frequently occur and can hence prioritize visits to these areas. Customers can also contact the sellers directly, which is common if they have been recommended by a friend or family member to try the purification systems. Hence, it is also common for the sellers to ask their current customer for references or contact details to other people as well as asking if he or she can recommend the products to others. In this way the sellers and the households create a customer network for the company and the company's reputation becomes important.

The sellers argued that their companies are not regulated by any specific laws or regulations in Ecuador except the import rules since they function as intermediaries and local distributors by importing the equipment from abroad. Regulations and requirements for the water quality and chemicals used in the treatment of tap water is Interagua's responsibility. The sellers, as well as Interagua and EMAPAG-EP, confirm that they do not have any contact with each other. Nonetheless, the sellers explained that their purification systems and filters are needed. The main arguments can be summarized as follows:

- *Old distribution systems:* Even though Interagua cleans the water properly, there are still chemical reactions occurring when the clean water is transported in the old pipes which make the tap water contaminated before reaching the households.

- *Excess chlorine:* Interagua puts more chlorine in the water than permitted by the legal limits when the water is being transported long distances in the pipes, e.g. when distributing water from La Toma in the north to the areas in the south of Guayaquil. In order to eliminate excess chlorine the purification systems and filters are needed.

- *Plastic materials are dangerous:* Buying water in plastic bottles has negative health implications since the water reacts with the plastic and can cause cancer and diabetes when you drink the bottled water.

- *Bacteria in the tap water:* Even if boiling the tap water up to 100 degrees Celsius bacteria can survive and in order to eliminate that a purification system or filter in needed.

As earlier stated, the households react differently to the sellers' arguments. Hence, the sellers use different arguments depending on the response from the household as well as their knowledge about the water situation. One seller explains that it is a lot easier to sell to people who lack knowledge, and that he prepares more if he is going to an area of Guayaquil where richer people live since he assumes they have a university education and more knowledge. Therefore, these people can be more critical of his arguments.

It has been possible to identify two main types of sellers who use different strategies in order to demonstrate and sell their products. They are referred to as *the technical seller* and *the emotional seller* and will be described below. It is possible that a seller can alter between the two types, but I have only met sellers who I have perceived as being either technical or emotional in their approaches.

As mentioned, if a seller notices that the household lack information or knowledge about their water, the sales are often easier to do. On the other

hand, when approaching households that claims to have better knowledge and also shows that in the interaction (by counterarguments, critical questions etc.), the sales are more difficult and require harder work from the seller. One seller says that the main act in these situations is the demonstration with the technical device put in the water from various taps to show the current level of contamination (see figures 4-5 in Appendix 1). Afterwards many people get frightened or understand why a system is needed and are hence more willing to buy one. Others claim that these test are false and that the seller put different settings for the device, causing a chemical reaction in order to convince them into buying the products. The sellers' response to this is that the test with the device is showing the truth and the settings are not manipulated. In addition, these sellers use medical and technical terms and explanations in order to sell their products, and are therefore referred to as *the technical seller* in this study. Some households have described these sellers as very insistent and even pushy with their technical, and often complex, arguments and demonstrations.

The other type of seller defined by this study is referred to as *the emotional seller*, who uses a very different strategy when approaching the households. The emotional seller can make visits and demonstrations in the households' home, but it is more common that the households refer friends and other family members to this seller, creating a reputation for the seller by positive recommendations. The fact that people have high trust for family and friends and their recommendations is beneficial for these sellers, since they do not have to gain the trust while demonstrating the purification systems. Hence, this seller does not need to be insistent nor technical in a similar way as the technical seller since the people are already interested in these sellers' products. Instead, the emotional seller presents a concept of well-being. This includes a philosophy of a natural and balanced life where clean water together with good food and good sleep are important for a healthy life. One emotional seller coming from the company Nikken explained:

"The philosophy is inspired by the five pillars of health: Mentality, body, society, family and finances. It is a very natural concept, certified and an integrated concept. Water, air, rest, nutrition and light… If you drink good water, rest well and eat well you can prevent sickness… That is protecting the body." [6]

One of the emotional sellers talked about the emotional cheque, "*cheque emocional"*, which means that she makes people feel good when they can obtain a purification system which is pleasing for both the people and for her. However, in terms of knowledge about water and the situation in Guayaquil, little is known. This is seen in the interviews since these sellers lack the ability to explain why the water is not potable or how the purification systems clean the water. One seller says that the systems are made of magnetic stones which clean the water, but a more detailed explanation cannot be presented. Instead, focus in this type of sales lies in the promotion of the well-being concept.

The potential knowledge gap that an emotional seller has can be said to be concealed since people trust the recommendations from family and friends when buying these purification systems and filters. By that, there is simply no need to question the sellers' knowledge about water and it does not become visible that knowledge is missing. Hence, the emotional seller can promote the concept linked to well-being and health rather than using technical explanations of why purification systems and filters are needed. In contrast to the technical seller, the emotional seller appeals to sense of trust and personal relations to persuade the households to buy the purification systems.

Both the technical and emotional sellers have argued that they offer payment plans for customers paying with credit cards. Customers without

[6] Original quote in Spanish:"*La filosofía esta insperada en los cinco pilares de la salud: Mente, cuerpo, sociedad, familia y finanzas. Es un concepto muy natural, certificado, un concepto integral. Agua, aire, descanso, nutrición, luz…. Si tu tomas una buena agua, descansas bien, comes bien, tu previenes enfermedades.. es protección para el cuerpo."*

credit cards have to pay cash during the sales meeting. Not all people in Guayaquil are owners of a credit card, specifically if one belongs to a low-income social class. However, the majority of the sellers say that their products are available for all types of people. In order to make it easier for people with a lower economic status to buy a purification system or filter, one seller stated that discounts, special offers and beneficial payment plans are given when he sees that someone wants to buy the products but are not economically able to. Facilitating the purchases in this way could be a way for the sellers to increase their own salary since their work is commission based. Also, since the sellers confirm that competition between the companies exist to a high degree, the one with the best offers is likely to succeed. One of the emotional sellers explains that technical sellers can visit houses where she has already sold a purification system. The technical seller performs tests on the water coming from the system and tells the household that they have been tricked into buying it and afterwards offers them another purification system instead. One of the technical sellers also stated that sellers of chlorine use false propaganda by saying that the households need chlorine and not purification systems or filters in order to clean the water properly. Due to this, all sellers included in this study have stated that they have an educational role. It is important to make households aware of the best methods to make their tap water potable and safe.

2.3.3 Governing actors Interagua and EMAPAG-EP

Interviews with representatives from the main governing actors regarding water management in Guayaquil are also included in this study. The representatives from Interagua were the production manager and the commercial manager. Interviewing them allowed for a broader understanding of the topic and contributed to give a technical as well as a social perspective. The production manager has been working for Interagua since the concession contract was signed which contributed to the understanding of the general working process by Interagua and how the water situation has improved in Guayaquil since 2001. The commercial manager has been working for Interagua for two years. Despite having less

experience compared to his colleague, the commercial manager could provide important information about customer relations, economical decisions and the structure of the concession contract.

The representative from EMAPAG-EP is a civil engineer working in the technical department with responsibility for planning, controlling and monitoring water management projects in Guayaquil. This representative has a frequent contact with Interagua and has worked seven years for EMAPAG-EP.

Through the concession contract a privatization of the water management took place and both EMAPAG-EP and Interagua refer to Interagua as having a monopoly on all water related services in Guayaquil. The representative from EMAPAG-EP has argued that it is an advantage to have a private company in charge of water management because they can do investments, propose new technology and EMAPAG-EP can still regulate them in order to assure improvements. The reasons for privatizing the water services were that the distribution systems before 2001 were bad, there was a lack of control and regulation and EMAPAG-EP wanted to be able to guarantee a continuous flow of water to the households. Similar explanations are given by the representatives from Interagua. In addition, they explain what the situation looked like before 2001: there was no water flowing to the southern parts of Guayaquil; pipes in the ground were not mapped, movement of water in the main pipes was difficult, there were many leaks in the systems and low pressure and low flow of water was very common. Some parts of the city had water services for only ten hours per day. The representatives from Interagua alleged that they started with very challenging conditions but won the concession contract since they were the company that could provide the highest number of new water connections and reach continuity of service during the first five years, i.e. meet the requirements in the first master plan. In the second master plan, investment requirements were established and made possible by Interagua.

When Interagua started to work in Guayaquil new forms of cooperation were developed since the engineers from Interagua together with local engineers and people in the field were going to work together. As one of the Interagua representatives explained, this showed a knowledge gap between the two groups and a transmission of knowledge had to take place. The local engineers lacked technical skills and knowledge. One example is that they could not measure the accurate water flows or take water samples. In order to know the water levels before 2001, they used to call the hospitals in Guayaquil in order to get a confirmation of the water levels and pressure. If the hospitals said that the levels or pressure were low, the local engineers could open the water vaults and distribute more water. Another example is that people in the south parts of Guayaquil, who suffered the most from the insufficient water services, installed their own connections in order to get water. Due to lack of knowledge, the people drilled into the sewage water pipes or down to the soil water and took up this water for cooking and drinking without knowing where it came from but thought it was better than nothing. One of the Interagua representatives stated that this was a *"chaotic way to operate"* during this time. When Interagua started to work with local engineers in Guayaquil they could for the first time create maps of pressure and flow, replace fragile pipes made of metal or cement with plastic materials and repair the worst leaks.

In 2007 the first water samples in the south of Guayaquil could be taken. The improvements have continued since, and Interagua works in different areas of the city at the time. When the most critical problems in one area are taken care of, they move on to the next area because the problems there are more urgent. Hence, there is still a need of improvements since everything is not taken care of even though it has reached an acceptable level in most sectors. They mentioned that water losses in the systems are still high and estimated to 56% and that up to 100 kilometres of the pipelines has to be "*rehabilitated*" or changed. However, if looking at the overall situation in Guayaquil it has gotten a lot better compared to the time before 2001. The Interagua representatives stated that they have gone from 240 000 to

550 000 water connections (meaning that the number of taps connected to the water distribution network have more than doubled), reached a continuity of service in Guayaquil and that the water coming to the households in the tap is potable without treatment.

EMAPAG-EP and Interagua have a lot of contact with each other and both of them confirm that good relations are important. Both actors take water samples (EMAPAG-EP does it as a part of the control function of Interagua) and share material and statistics with each other. However, the main differences between the two are that Interagua mainly has contact with EMAPAG-EP, whereas EMAPAG-EP has contact with other authorities and governmental organizations e.g. ARCA, Agencia de Regulación y Control del Agua and SENAGUA, Secretaría del Agua.[7] One of the representatives from Interagua wondered if a more direct contact with the governmental authorities would be beneficial for the transmission of information.

Furthermore, Interagua can suggest improvements and new projects, but it is EMAPAG-EP who in the end decides what is going to be implemented and with what economical sources. This is regulated in the concession contract, the five year long master plans as well as by the current political decisions. EMAPAG-EP is according to the *Ley de Transparencia* (Transparency Law) forced to provide documents and statistics to the public, whereas Interagua is not since it is a private company.

Since EMAPAG-EP is the regulating body it has a strong influence on what Interagua can do. One example of this control function is that EMAPAG-EP can fine Interagua if they do not reach the requirements in the master plans. Also as earlier mentioned, it is EMAPAG-EP and not Interagua that has contact with other authorities, and can by that influence the political decisions regarding water management in Guayaquil. The most outstanding example of this is that it is EMAPAG-EP who approves the water tariff that

[7] ARCA and SENAGUA are two of the authorities on a governmental level and hence on a higher level than EMAPAG-EP, who is on a municipal level (ARCA, 2018. EMAPAG-EP, 2018 A. SENAGUA, 2018).

Interagua can charge the households (this is regulated in the concession contract). According to the Interagua representatives, EMAPAG-EP has reduced the tariff and kept it low for the last couple of years. That water is cheap is confirmed both by the households and also by the representative from EMAPAG-EP who believes that water in Guayaquil is cheaper than anywhere else in Ecuador. It is explained as being a way of subsidizing water to gain votes in the upcoming elections since EMAPAG-EP is a public company with possibilities to affect politics. Another explanation is that the households would react negatively if the tariff was raised and by keeping the tariff low the households are possibly more pleased. Due to this, the Interagua representatives points out a weakness in the concession contract: If Interagua wants to implement new projects in order to improve the water services even further, more money would be needed and the investments and economic support approved by EMAPAG-EP. One of the Interagua representatives stated that they have been able to detect all the problems and come up with solutions for them - it is only the financial means that is restricting them from solving these problems. One way to allow it and increase the budget would be to raise the water tariff for the households, but instead the opposite is done. Hence, the Interagua representatives alleged that the potential efficiency is not recognized in the concession contract and master plans.

The representatives from Interagua argued that the tap water they provide is potable, and that they drink it themselves without further treatment. Why people in Guayaquil still do not do the same they believe has to do with the household's lack of information about Interagua and their cleaning processes as well as that the old perception that there is a need to boil the water still persists. The representatives argued that they would like to do more campaigns in order to change this and spread information about that the tap water is potable. However, they explained that Interagua is regulated by the concession contract and its budget, which means that it is not possible at the moment. Also, together with EMAPAG-EP they have done campaigns in the past, but since the tap water was announced as potable but

people who drank it become sick, there is currently a fear for letting this type of information out. Because of the risk of losing trust and creating a negative reputation, EMAPAG-EP is more restrictive about this due to its role as a regulator of Interagua. This fear is justified since Interagua also has a fear of cutting or connecting wrong pipes when working on the improvements of the distributions system. There is still a lot of information missing and the old maps of the distribution system do not always correlate with the real pipes found in the ground.

Both EMAPAG-EP and Interagua has stated that they do not have any contact with the sellers of water purification systems coming from the private companies. One of the representatives from Interagua stated that it would not be a surprise if the sellers use false information in order to sell their products. Also, he argued that due to the lack of knowledge and the old perceptions, people might believe that the water is contaminated in the pipes. However, he mentioned that the problem might rather be in the *cisternas* than in the pipes, since the former are seldom cleaned properly. This could cause the contamination of the water distributed by Interagua to the households. Since the *cisternas* are the households own property, the households have to have sufficient knowledge on how to clean them. The representative from Interagua stated that they offer cleaning services of the *cisternas* to the households, but that households can also clean it themselves. The representative from EMAPAG-EP also confirmed this picture and argued that Interagua is responsible for cleaning and distributing the water to people's houses, but if the *cisternas* are not cleaned properly, it can cause contamination that the house owner him/herself is responsible for.

Both Interagua and EMAPAG-EP aim at providing clean tap water and to sustain the continuity of water services in Guayaquil. The concession contract is valid for 30 years, and by the time of this study, the representatives interviewed stated that they do not know what will happen after this period of time. Both entities confirmed that concession contracts are not allowed anymore in Ecuador due to political decisions taken after

2009, and hence an extension of the current concession contract is not possible according to current legislation.

3. Discussion

The sum of the narratives from the three target groups present a complex water situation in Guayaquil where different explanations, arguments and imagined thruths regarding the households‘ potential access to potable water are included. What stand out are the uncertainty, lack of information and trust that exist among the households in relation to the sellers of water purification systems, to Interagua and the state. This is true for the sellers too since they present different and often vague information and explainations about the water in Guayaquil. In addition, there seems to be a lack of communication between the governing actors, the households and the sellers which cause several concequences.

3.1 Understanding the households

The narratives and the households‘ behavior shows that the households do not reflect on or worry about the water situation, unless there are problems with either the access to or the state of the water, or if they are approached by a seller. Their pre-reflexive strategies and perceptions of obtaining potable water, i.e their practical consciousness (Giddens, 1986), is part of a habitual pattern and based on previous experiences and understandings of the water situation (cf. Bourdieu, 1990. Giddens, 1986). This means that the households‘ strategies to access clean water are schemes of routines and the majority of the households do not discursively question these strategies. Even if the strategies are different (e.g. some buy purification systems whereas others boil their water for a few minutes up to an hour) or people practice a specific strategy but can not explain why, the individual household do not doubt the validity of their own strategy.

However, when water problems occur (e.g. the potable water is mixed with sewage water or the water distribution is turned off due to reparation work in the area) which are not solved by the everyday routines, the households are forced to reflect and question their strategies, considering why the routines do not work as assumed and what type of information is needed in order to secure the water supply. Hence, the new strategies and practices are reflected on and become part of the household‘s discursive consciousness (Giddens, 1986). The same thing happens when the sellers enters the households: The households have to reflect on the state of water quality and their strategies to secure clean tap water, thus clearly tackling the problem discursively by reflecting on how to solve the problem and how previous strategies have been functioning. By doing so, they have to decide if they ought to buy a purification system or not. This is in line with what Giddens (1986) refers to as rationalisation of action and reflexive monitoring. It means that the households have to, in a rational way, scrutinize their water strategies when being approached by a seller. This leads to a reflexive thinking or monitoring of these strategies and it comes into mind since they are being reminded of their current strategy as well as alternative strategies when the interaction with the sellers takes place (Giddens, 1986). This also means that the households must draw on and reflect on their previous understanding of the water situation in order to (re-) evaluate the current situation, which can lead to a new understanding of the situation and hence perhaps a change in the use of the strategies for obtaining potable water. We are here presented with a hermeneutic circle of understanding (cf. Alvesson and Sköldberg, 2009).

The outcome of a sales meeting depends on how the household views itself and what type of arguments the sellers bring. If the household sees itself as well grounded in the topic they can demonstrate their knowledge and agency, their "*continuous flow of conduct"* regarding water strategies, and hence approach the sellers' arguments (Giddens, 1986, p. 55). This would then imply that they rationally can explain why they act as they do and demonstrate that their strategy of obtaining potable water is better than the

strategy that the seller suggests. If not, it is likely that the sellers will have a strong influence on the household's decision making.

In addition, according to Giddens (1986) the rationalisation of action and an actor's competence is judged by others. This is true for the household-seller interaction since the sellers evaluate and judge the households and the knowledge they possess. If a seller judges a household as less competent with little knowledge and poor judgement, they will approach it in a different way compared to if they judge the household as more competent. The result of this is that sellers have different arguments and prepare differently when meeting with different households. Sellers in this study have explicitly said that it is easier to sell to households that lack (or as I also see it, do not demonstrate) knowledge. On the contrary, the rationalisation of action and an evaluation is also done by the households when they judge the sellers' arguments and information. The result of this evaluation is seen in the three responses presented earlier:

1. People who believe the sellers and hence buy the purification systems.
2. People who believe the sellers but think that the purification systems are unnecessary or too expensive and hence continue to practice another strategy.
3. People who do not believe the sellers and hence do not buy the purification systems.

If there is a true need for the purification systems seems to be left aside since the sellers lack the ability to in a detailed way explain how the water is cleaned by the systems, what contaminants are removed and what properties the water has when it is delivered by Interagua to start with. Also, the sellers confirm that they do not have any contact with with Interagua or EMAPAG-EP who are the main actors providing statistics and data about water quality. Therefore it is difficult to understand where the sellers' information comes from or what source they have based their arguements on.

Several people from the households have described themselves as lazy and without interest in the water question, e.g. by not searching for updated information. At the same time Interagua does not reach out to their customers with information about the water improvements and EMAPAG-EP that regulates Interagua‘s concession rights have a fear of letting out information due to negative experiences from the past. This means that the source of much of the information about water that reaches the households derives from the sellers, and it is up to the households alone to evaluate this type of information. Also, since the companies that sell the purification systems are not constrained by any specific regulations or controls except the import regulations, there is no control function of their information. Even if the sellers want to take on an educational role, much of their commercial interests shines through and their information is often biased due to the following reasons:

- The sellers approach specific areas in Guayaquil where they know that water problems currently exist. Therefore the chance of finding households that are aware of the water problems and hence in a position to change their current water strategy, e.g. by buying a purification system, is likely to be found.

- They facilitate the purchases by offering payment plans and discounts.

- Their work is commission based which means the more a seller sells, the more money he or she can earn which creates a personal incentive for sales.

- Their educational background involves sales techniques and marketing strategies.

This makes the households vulnerable to the sellers’ arguments, especially to the technical sellers’ arguments. When it comes to the emotional seller,

the knowledge gap and strong sale techniques are concealed, since the recommendation for purification systems comes from someone that the people in the household already know. Hence, there is no need to build up a bond of trust to this type of seller and the potential to question the seller's arguments is very limited. This may also suggest that the households demonstrate a higher degree of trust for family and friends in comparison to the trust they have for the governing authorities or sellers and the information they provide regarding water issues (Blind, 2006. World Bank, 2010. Lafuente et. al. 2012).

The water situation in Guayaquil has improved substantially since 2001, and according to Interagua, the tap water is now potable. However, people from various households have said that they still use several strategies to try to purify the tap water before drinking it. This can be explained by an understanding based on previous experiences and a collective memory since people continue to act in the same way as they did when the water situation was a lot worse than it is today (e.g. compare before and after the concession contract was written). The trust for the governing actors and their information is not high, which is also a contributing factor of why it is difficult to change the perception of these actors and the water improvements they have done. In the case of water in Guayaquil it seems that people have never trusted the water system or the authorities' will and ability to provide potable water directly to the tap. People have also been taught from their childhood to always try to purify the water. Interagua and EMAPAG-EP have demonstrated that they want to change this. If they are able to do so in the future it could lead to a transformation of the households' water strategies, since it might disrupt people's tendency to interpret the present situation of potable water by drawing on previous experiences (Inglis, 2012). The reason why the governing actors have so far not been able to change the situation is explained by the fact that there are still remaining problems with water distribution and the responsible actors have not been able to provide clean and potable water continuously. As also mentioned, there is a lack of trust and information, which make the

households maintain their belief that there is a need for purifying and treating the water. Drawing form Giddens' theory of structuration one could argue that trustworthy information and a visible change in the water management could possibly lead to a social transformation of the old ideas and present strategies (Giddens, 1986. Inglis, 2012). However, in the situation today there is too little trustworthy and accessible information in order for this transformation to fully take place. The combination of the abovmentioned factors open up space for the private sellers of water purification systems to allude to old perceptions and ideas about unclean water in order to make profit by arguing that there is a need for their products.

3.2 Governmentality in Guayaquil's water market

As stated in the beginning of this thesis, Interagua is part of the French owned consulting firm Veolia. Veolia is one of the dominating companies in the private water market in the world today (Sjölander Holland, 2005). Starting at the very top, this means that Interagua is governed by a big company with a strong market position and economic power behind its actions. It might therefore not come as a surprise that Interagua won the concession contract with little competition in 2001. When signing the concession contract and writing the five year long master plans it has hence been of great importance to have a national regulator that can control and govern what Interagua is doing and match the role as a powerful actor. This position is the one that EMAPAG-EP has been given and I will argue that this role is important for the governing, because ultimately, it is EMAPAG-EP that decides on the direction for development of water distribution and infrastructure in Guayaquil. In this framing Interagua is just an executor.

Examples of EMAPAG-EP's control function and governing of Interagua is seen in that the former body decides which of the projects will be approved and with what economical means. EMAPAG-EP can fine Interagua if they consider that Interagua has not reached the goals in the agreements. This is a type of governing that also includes exercising power by using fines as a

threat or punishment. One example of where this has been put to practice was when EMAPAG-EP fined Interagua 5 million US dollars for not finishing work with the sewage systems according to one of the agreed master plans (PSIRU, 2018).

One aspect that seems to be crucial in the governing of Interagua is that it is EMAPAG-EP that decides the water tariff for the households that Interagua can charge. Frustration over low water tariffs has been expressed by the interviewees from Interagua, since the efficiency and the potential of the concession contract might not be recognized when a low tariff is set. If there was more money, the distribution system and infrastructure would be improved faster and perhaps there would be more money for doing campaigns in order to inform the households about the improved water situation. On the other hand, EMAPAG-EP is by this decree assuring that water prices cannot increase. This has various implications: A situation like the Water War in Cochabamba is not likely to happen, at least not as long as the water tariff is kept low and people are still able to pay. EMAPAG-EP probably knows this, and by keeping the tariff low they can avoid a strong civil reaction or dissatisfaction among the people. This is a strategy used by EMAPAG-EP to enforce its role as a regulator since the governing of Interagua means that Interagua cannot do massive improvements which in the end could become very costly for the households. The low water tariff is appreciated by the households, but it can also be used as a tool in politics since people are more likely to vote for an actor or politician that suggests low water tariffs. It also means that EMAPAG-EP in their governing creates the imagination that water supply is cheap and it might be argued that the full value of water delivery is not fully recognized by the citizens. At the same time, EMAPAG-EP seems to improve the access to water or at least gives the impression of it, since Interagua and their expertise are contracted and improvements of the water distribution system done, even if the pace is slower than Interagua would wish for.

EMAPAG-EP's role is crucial. They balance between making improvements and at the same time keeping the people happy and able to pay. In the making of these two actions, they are governing both Interagua and the households in Guayaquil. The concession contract itself is the physical symbol of this governance. Also, since it is them and not Interagua that has a direct contact with other authorities they can control the flow of information to and from these authorities. Thus, EMAPAG-EP has a strong influence over the political and economic governance linked to the water situation in Guayaquil. However, since it is Interagua that has most of the direct contacts with the households, much of EMAPAG-EP's governing and influence is not known to the households. As earlier stated, several individuals from the interviews do not even know that EMAPAG-EP exists.

Interagua can also be said to have a strong influence, but on another arena than EMAPAG-EP, since they are more linked to technical governance due to their technical superiority. As an example, when Interagua's work started in 2001 there was a big knowledge gap between the local engineers and Interagua's engineers (according to the representatives from EMAPAG-EP and Interagua). Since the engineers were going to work together to improve the water supply facilities, a transmission of knowledge had to take place. With the aim to bring technical skills and knowledge, Interagua governed how this was going to be done since the local engineers lacked the sufficient knowledge of how to improve the water services. This means that the knowledge transmission has been part of Interagua's governance. This poses the question if an improvement of the water situation in Guayaquil could have taken place without this technical governance or influence from Interagua. It is not in the scope of this thesis to evaluate this question, but it is possible that this is one of the main reasons for the privatization i.e. that a better technical governance than what EMAPAG-EP could provide before 2001 was needed and it was looked for in the private (and neoliberal) sector.

Another important aspect is that Interagua is the actor that has the main contact with the households, e.g. when it comes to payment of the water

tariff, announcements about water cuts and information about improvements. Interagua's contacts with the households influences the households' water strategies and practices, disciplinging the households' water access and purification behavior. However, so far Interagua has failed in the governing when it comes to change the people's perception of the water supply: the majority still questions that the water situation has improved and that the tap water is potable. The question one has to ask is how these perceptions can be changed when the information is restricted and a fear of letting out information exists (as both EMAPAG-EP and Interagua confirm is the case).

EMAPAG-EP might be quite happy with the current situation, as people are satisfied with the low water tariffs but at the same time people see Interagua's presence and are taught that improvements are done. This boosts the popular image of EMAPAG-EP, which enables the government to divert discontent and anger with the malfunctioning water supply system away from themselves. Also, it is Interagua who is likely to be blamed when water problems occur since they are working with the technical parts out on the field and hence more visible for the citizens. As a conclusion, EMAPAG-EP's governance can be seen as follows: It can have a specific intention towards a desired outcome i.e. keeping the people happy and making them vote for a specific type of politics. At the same time it means that they are doing their job as the regulator since they, in a rational and controlled way, regulate another actor, namely Interagua.

Governance includes the shaping of human conduct, and therefore has implications for action and freedom (Dean, 2009). In the sale situations this is visible since the private sellers promote their purification systems by demonstrating why they are needed, i.e. trying to govern the households' actions and how they percieve the water supply situation. This is done in a straight forward and deliberate manner by presenting arguments and reasons that sound trustworthy and true. However, the gap between knowledge and propaganda makes it very hard for the households to decide the best course

of action. At present, the information from the sellers is highly questionable and biased (due to their personal incentives of selling the products and making money as well as their inability to explain how their products actually clean the tap water) and the information from EMAPAG-EP or Interagua is almost non-exisiting (or there is lack of trust for using this information). This means that the households' options for decision and action become both limited and uncertain and they have to try to find the answers and correct information themselves. People in the interviews have refered to themselves as lazy, but perhaps what they do is that they blame themselves for their lack of knowledge and inability to make rational decisions.

Due to the fact that information is missing or is incomplete, and old perceptions of contaminated tap water still exist, I have gotten the impression that the sellers have an interest in keeping this picture alive. The sellers know about these old perceptions and that people still draw from past experiences and they can promote their products easier if they confirm the picture about the water that the households already have. The sellers'governance is therefore seen in the sales meeting since they try to convince the household members to buy their products.

3.3 What does privatization mean?

Since the ideology of neo-liberalism promotes commodification of public goods, free trade, free markets as well as less involvement from the state, I would like to argue that neo-liberal ideas are present in the water market in Guayaquil. By having a strong international market actor in resource management, Interagua gained the concession contract with little competition. Veolia is French owned but due to globalisation and their dominating position in the international market they could enter the local market in Guayaquil by operating the company Interagua. Entering this market has had various implications which will be explained in this chapter. The private sellers of water purification systems have also entered the local water market due to the process of globalisation since the companies in

Guayaquil function as intermediaries for bigger companies outside Ecuador. These intermediary companies have an interest in making profit and it is possible for them to pursue this due to the lack of information and the uncertainty that the households in Guayaquil experience as earlier discussed. However, this part of the discussion will focus on Interagua and EMAPAG-EP since they can be said to be part of the private water market on a higher and more political level than the private companies and sellers e.g. by being affected by current legistlation in Ecuador, the concession contract itself as well as having contact with other national autorities who are related to water questions.

Looking at the power of the state, Interagua‘s entrance into the water market has decreased the power of the local authority EMAPAG-EP. By the concession contract Interagua and EMAPAG-EP are now referred to as the two governing actors operating on the same level and in the same space, even if they have different roles as operator and regulator respectively. However, when looking at the larger picture, the water market now holds more private interests than before and it can be argued that a neo-liberal governmentality is a new element in this market, caused by Interagua‘s appearance on the water supply stage (cf. Ferguson and Gupta, 2002).

Wallerstein (2006) argues that sellers within a captitalistic market economy (not specifically in Guayaquil, but in a general sense) prefer to create a monopoly if they can since it would boost their profit. Pure monopolies can be difficult to create, but not so called quasi-monopolies. Wallerstein (2006) means that quasi-monopolies can be created by support of the state and reserved rights or patents which can be signed for a specific number of years. By applying this idea to the case of Guayaquil one can see that Interagua has created a type of quasi-monopoly (or even a monopoly as it has been referred to by the interviewees) on the water market and have specific rights through the concession contract with a validity of 30 years. The question here is how willing the state, in the form of EMAPAG-EP, was to contract Interagua. There are two main explanations that can

contribute to an understanding of this:

1. Due to the chaotic water situation in Guayaquil before 2001 EMAPAG-EP had to do something since their own governing and technical knowledge were not enough. There was a lack of regulation and control and they could not guarantee a continuous flow of water to the households. Therefore the creation of a quasi-monopoly and contracting a private actor was initiated and had support from the state due to the fact that EMAPAG-EP ran out of alternatives of how to improve the situation alone.

2. Due to a strong pressure from international institutions like the World Bank and the Inter-American Development Bank (who granted loans for the privatization) it was difficult for EMAPAG-EP to abstain from contracting Interagua. As a governmental body with smaller economical means compared to international actors with large economic power, EMAPAG-EP was run over in a situation where they were in need of support and alternatives. Having Interagua as the only company bidding for the concession contract did offer a solution, but not many alternatives.

Due to its position as a private company, Interagua wants to make profit. That probably explains why they want to raise the water tariffs for the households in Guayaquil and argue that the concession contract do not recognize efficiency. Even if the cooperation with EMAPAG-EP runs smoothly, Interagua would probably do more investments, raise the water tariffs and be more profitable if EMAPAG-EP was not regulating them or had a weaker position. Because of this, EMAPAG-EP's role is important as mentioned earlier. However, when it comes to the aspect of making money Interagua showed an interest for the water market in Guayaquil specifically. It has been argued that private companies strategically choose where to engage in business due to the interest of making profit (Bratton and Denham, 2014. Swyngedouw, 2005. Wallerstein, 2006). Swyngedouw

(2005, p. 95) calls it *"cherry picking"* and Bratton and Denham (2014, p.14) argues that "*the portability of capital in the era of globalization makes it possible for multinational corporations to select their production location in an endlessly variable geometry of profit searching"*. This could perhaps explain why a privatization has taken place in Guayaquil and not in smaller cities in Ecuador because entering the water markets there has simply not been considered big or profitable enough.

Veolia operates on a global scale and can therefore select a market where accumulation of capital and profit making is easy (cf. Wallerstein, 2006). In this case, capital is moved from Guayaquil to other geographical locations due to Veolia's global and dominating market position and since the concession contract is valid for a long period of time and difficult to break. Swyngedouw (2005) has argued that privatization leads to accumulation by dispossession since the control from the state is moved to the private sector (which is in this case global and outside Ecuador) which gives the private sector a stronger influence over local resources. By this shift it becomes possible to profit from resources and also to move the profit to new locations. Linking Harvey's (2006) views of accumulation by dispossession to this reasoning means that this shift in governance possibly can, on a larger and broader scale, lead to uneven geographical development. How much of an uneven gegraphical development is taking place in Guayaquil in relation to other places in the world is difficult to estimate and not in the scope of this thesis. However, accumulation by dispossession is seen in Guayaquil concidering how the concession contract was formulated and the fact that many of the workers from EMAPAG-EP were dismissed from their jobs but later rehired or trained by Interagua (Swyngedouw, 2004). Interagua has influenced the local engineers by their technology of governance and transmission of knowledge, in other words appropriating assets like labour force and knowledge management. Also, a concession contract in itself gives the rights to the private actor to operate and improve the water infrastructure. It can therefore be said that infrastructure is another asset that Interagua has taken control of (i.e. "appropriated" or

"accumulated"), since they are in charge over it. This is a problematic situation since the concession contract makes it partly legal for Interagua to accumulate assets in this way and gain money, control and power and move profit to places outside Ecuador.

In addition, Harvey (2006, p. 95) means that a fundamental characteristic of capital accumulation is that *"technological change (or "progress") is inevitable and accepted as a good in itself".* Harvey's words are applicable in the case of Guayaquil's water market since EMAPAG-EP had to contract Interagua if they wanted to improve the water situation and it has from both actors been said to be beneficial for the development to do so. On the other hand, this means that the shift from publically owned water services to private ones ultimately has had an undertone of capitalism and neo-liberalism, but it seems to be acceptable and even positive according to the interviewees from EMAPAG-EP and Interagua. Furthermore, information and data about water is to a greater extent than before in the hands of private actors (Interagua and Veolia) who do not have to share this information with other actors. Information can thus be partly relased, hidden, influenced or twisted.

The privatization of the water supply system in Guayaquil has made water become a commodity with a price tag on an international market. Here, transnational corporations are active, profiting on the low capacity of water services and the distorted and insufficient information to private households has contributet to transform water users to water customers (Swyngedouw, 2005). The Sustainable Development Goal number six states: *"Access to safe water and sanitation and sound management of freshwater ecosystems are essential to human health and to environmental sustainability and economic prosperity"* (UN, 2017, p. 8). An important question to pose is if an attempt to achieve this goal and provide clean, potable water, shall involve private actors with an interest in making profit of such a vital resource.

4. Conclusion

The privatization of the water market in Guayaquil has led to improvements in terms of water treatment and distribution if one compares with the situation before the concession contract was signed. Therefore, the concession contract can in this aspect be seen something positive. However, contracting a private company like Interagua with connections to the international company Veolia has meant that neo-liberal ideas and profit seeking has become part of this development. As discussed, this has meant that Interagua has gained money, assets and power whereas the same has decreased for the state owned regulator EMAPAG-EP. The increase of private interests in the water market in Guayaquil is evident, both on a higher political level where control is possible i.e. by the concession contract between EMAPAG-EP and Interagua. It is also evident in the non-political arena where there is a lack of such control, as in the cases of the private companies and their sellers. Due to that there are still problems with the water supply in Guayaquil, as well as old perceptions and a lack of new information about tap water, a space for the private sellers to operate in is created. This means that there is a continued uncertainty for the households in Guayaquil when it comes to understanding the tap water situation and what sources of information are available and trustworthy. As a result, the households practice many different strategies in order to make sure that they can obtain what they see as clean and potable water.

EMAPAG-EP's role as a regulator has in this case study been pointed out as important since they govern Interagua, and there are thus possibilities to influence the direction for development. EMAPAG-EP also governs the people, which means that they can guide them with a specific intention or towards a desired outcome. In this case it might have concequences for politics e.g. that people vote for a specific political cause. It can also mean that, since the water tariffs are currently low, a perception of that water and water related services are cheap is being created. In addition, since the

governing actors have failed in providing sufficient information about the tap water to the households, the old perceptions about it still persist. In the end of the 30 year period of the concession contract it would be interesting to see if the knowledge gap has been bridged and improvements done in the whole of Guayaquil, since this could implicate that the space for the private sellers to operate in would diminish. This would probably lead to a better water security and improved knowledge about tap water for the individual households.

5. References

Alvesson, M and Sköldberg, K. (2009) *Reflexive Methodology. New Vistas for Qualitative Research.* Second Edition. London. SAGE Publications.

ARCA, Agencia de Regulación y Control del Agua (2018). *Valores/misión/visión.* Available: http://www.regulacionagua.gob.ec/valores-mision-vision/ Accessed [2018-02-07].

Baumann, Z. (1998). *Globalization: The Human Consequences*. New York: Columbia University Press.

Blind, P. K. (2006). *Building Trust in Government in the Twenty-First Century: Review of Literature and Emerging Issues.* 7th Global Forum on Reinventing Government, Building Trust in Government. 26-29 June 2007, Vienna, Austria. Available: http://unpan1.un.org/intradoc/groups/public/documents/UN/UNPAN025062.pdf Accessed [2018-08-27].

Bourdieu, P. (1987). *Outline of a Theory of Praxis*. Cambridge. Cambridge University Press.

Bourdieu, P. (1990). *The Logic of Practice*. Stanford. Stanford University Press.

Bratton, J, and Denham, D. (2014). Introduction: Why classical social theory? I: *Capitalism and classical social theory.* University of Toronto Press. Pages 1-22.

Callinicos, A. (2009). *Imperialism and Global Political Economy*. Cambridge. Polity.

Creswell, J.W. (2009). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches.* Third edition. SAGE Publications, Inc. California.

Dean, M. (2009). Chapter 1: Basic concepts and themes I: *Governmentality. Power and Rule in Modern Society*. Second edition. Los Angeles. SAGE. Pages 16-51.

ECAPAG and International Water Services Interagua CIA. LTDA. (2001) *Contrato de Concesión de los Servicios Públicos de agua potable y saneamiento de la ciudad de Guayaquil celebrando entre ECAPAG e International Water Services (Guayaquil) Interagua CIA. LTDA.* Available: http://www.emapag-ep.gob.ec/emapag/contrato-de-concesion/ Accessed [2017-11-29].

El Universo. (2017). Alza del Salario Básico Unificado en Ecuador será de $ 11 para el 2018. *El Universo.* 27 December 2017. Available: https://www.eluniverso.com/noticias/2017/12/27/nota/6541678/alza-salario-basico-unificado-ecuador-sera-11-2018 Accessed [2018-05-16].

EMAPAG-EP. (2018 A). *Historia*. Available: http://www.emapag-ep.gob.ec/emapag/historia/ Accessed [2018-02-28].

EMAPAG-EP. (2018 B). *Map over Guayaquil.* Received via email correspondence with Martha Orta, EMAPAG-EP on 2017-11-29.

Favero, P. (2005). *India Dreams: Cultural Identity among Young Middle Class Men in New Delhi*. Stockholm. Stockholm University.

Ferguson, J and Gupta, A. (2002). Spatializing states: Toward an Ethnography of Neoliberal Governmentality. *American Ethnologist*. Vol. 29(4): 981-1002.

Foucault, M. (1991) Governmentality. I: Burchell, G., Gordon, C., and P Miller (eds.): *The Foucault Effect. Studies in Governmentality.* Hemel Hempstead: Harvester Wheatsheaf. Pages 87-104.

Giddens, A. (1986). *Central Problems in Social Theory. Action, Structure and Contradiction in social analysis.* Hong Kong. MacMillan.

Hall, D and Lobina, E. (2002). *Water privatization in Latin America, 2002.* Public Services International Research Unit, PSIRU, University of Greenwich. Available: https://www.protos.ngo/sites/default/files/library_assets/w-ppp-e56-waterpriv_latam.pdf Accessed [2018-04-13].

Hannerz, U. (2016). *Writing Future Worlds. An Anthropologist Explores Global Scenarios*. Springer International Publishing.

Harvey, D. (2006). Notes towards a theory of uneven geographical development I: *Spaces of Global Capitalism. Towards a theory of uneven geographical development*. London. Verso. Pages 69-116.

Hidalgo, P. (1932). Crecimiento de la Población de Guayaquil y su Desarollo Urbano 1531–1931. *Revista Municipal*. Pages 112–117.

INEC, Instituto nacional de estadística y censos. (1990). *Censos Nacionales de Población: Resultados Definitivos,1950, 1962, 1974, 1982, 1990.* Quito: INEC.

INEC, Instituto nacional de estadística y censos. (2010). *Resultados del Censo 2010 de población y vivienda en el Ecuador. Fascículo Provincial Guayas.* Quito: INEC.

INEC, Instituto nacional de estadística y censos. (2018). *Informe Ejecutivo Canastas Analíticas Abril 2018.* Available: http://www.ecuadorencifras.gob.ec/documentos/web-inec/Inflacion/canastas/Canastas_2018/Abril-2018/1.%20Informe_Ejecutivo_Canastas_Analiticas_abr_2018.pdf Accessed [2018-05-17].

Inglis, D. (2012). Chapter 4: Phenomenological Paradigms and chapter 10: Structurationist Paradigms I: *An Invitation to Social Theory.* Cambridge. Polity Press. Pages 86-127 and 208-234.

Interagua. (2017). *Quiénes somos / Pertenecemos a Veolia.* Available: https://www.interagua.com.ec/node/13 Accessed [2017-11-06].

Inter-American Development Bank. Bellettini, O., Carrillo, P., Brborich, W., Warner, M. and Coombs, E. (2006). *Stay Public or Go Private? A comparative analysis of water services between Quito and Guayaquil.* Quito, Ecuador. Grupo FARO.

Lafuente, M. Fernando, R and L Agosta. (2012). Mejorar la calidad de las políticas públicas para restaurar la confianza en el gobierno. *Revista del CLAD Reforma y Democracia*. No 52 (Feb 2012). Caracas.

Matamoros Garcia, D, Mendoza Brito, A, and K Ortiz Loor. (2013). *Estado empresario vs estado regulador: Análisis del monopolio natural del servicio de agua potable en la ciudad de Guayaquil.* ESPOL, La

Escuela Superior Politécnica del Litoral. Facultad de Ciencias Sociales y Humanísticas/ Ingeniero Comercial. Proyecto de Graduación.

Ministerio del Trabajo. (2017). *Ministerio del Trabajo establece Salario Básico Unificado 2018.*Available: http://www.trabajo.gob.ec/ministerio-del-trabajo-establece-salario-basico-unificado-2018/ Accessed [2018-05-16].

NE - Nationalencyklopedin. (2017 A). *Guayaquil.* Available: http://www.ne.se/uppslagsverk/encyklopedi/lång/guayaquil Accessed [2017-11-06].

NE – Nationalencyklopedin. (2017 B). *Ecuador.* Available: http://www.ne.se/uppslagsverk/encyklopedi/lång/ecuador Accessed [2017-11-06].

PSIRU, Public Services International Research Unit. (2018). *Interagua.* Available: http://www.psiru.org/companies/interagua.html Accessed [2018-03-22].

Segerfeldt, F. (2005). *Water for sale: how business and the market can resolve the world's water crisis.* Washington. Cato Institute.

SENAGUA, Secretaría del Agua. (2018). *Valores de la Institución – Misión y Visión.* Available: http://www.agua.gob.ec/valores-mision-vision/ Accessed [2018-02-07].

Sjölander Holland, A.C. (2005). *The water business – corporations versus people.* London and New York. Zed Books Ldt.

Swyngedouw, Erik. (1995 A). Power, nature, and the city. The conquest of water and the political ecology of urbanization in Guayaquil, Ecuador: 1880-1990. *Environment and Planning A* 1997, volume 29, pages 311-332.

Swyngedouw, E. (1995 B). The contradiction of urban water provision: A study of Guayaquil, Ecuador. *Third world planning review - November1995.* Pages 387-405.

Swyngedouw, E. (2004). *Social Power and the Urbanization of Water. Flows of Power.* Oxford. Oxford University Press.

Swyngedouw, E. (2005). Dispossessing H2O: The Contested Terrain of Water Privatization. *Capitalism Nature Socialism – March 2005.* Volume 16 (1). Pages 81-98.

The World Bank. (2004). *Standard Bidding Documents. Procurement of Works, Smaller Contracts.* Washington D.C. The World Bank. May 2004.

The World Bank. (2010). *Results, Performance Budgeting and Trust in Government*, Washington, Public Sector and Governance Unit for Latin America and the Caribbean.

UN, United Nations. (2017). *Progress towards the Sustainable Development Goals.* Report of the Secretary-General. United Nations Economic and Social Counsil. E/2017/66. Second reissue, 8 June 2017. Available: http://www.un.org/ga/search/view_doc.asp?symbol=E/2017/66&Lang=E Accessed [2018-04-16].

Veolia (2017). *Veolia Group – Profile - In brief.* Available: https://www.veolia.com/en/veolia-group/profile Accessed [2017-11-06].

Wallerstein, I. (2006). *World System Analysis*. *An Introduction*. 4th printing. Durham and London. Duke University Press.

Öhlander, M (2011). Kapitel 10. Analys I: Kaijser, L and Öhlander, M. (red.), *Etnologiskt fältarbete.* Edition 2.1. Lund. Studentlitteratur. Chapter 10.

6. Appendix 1

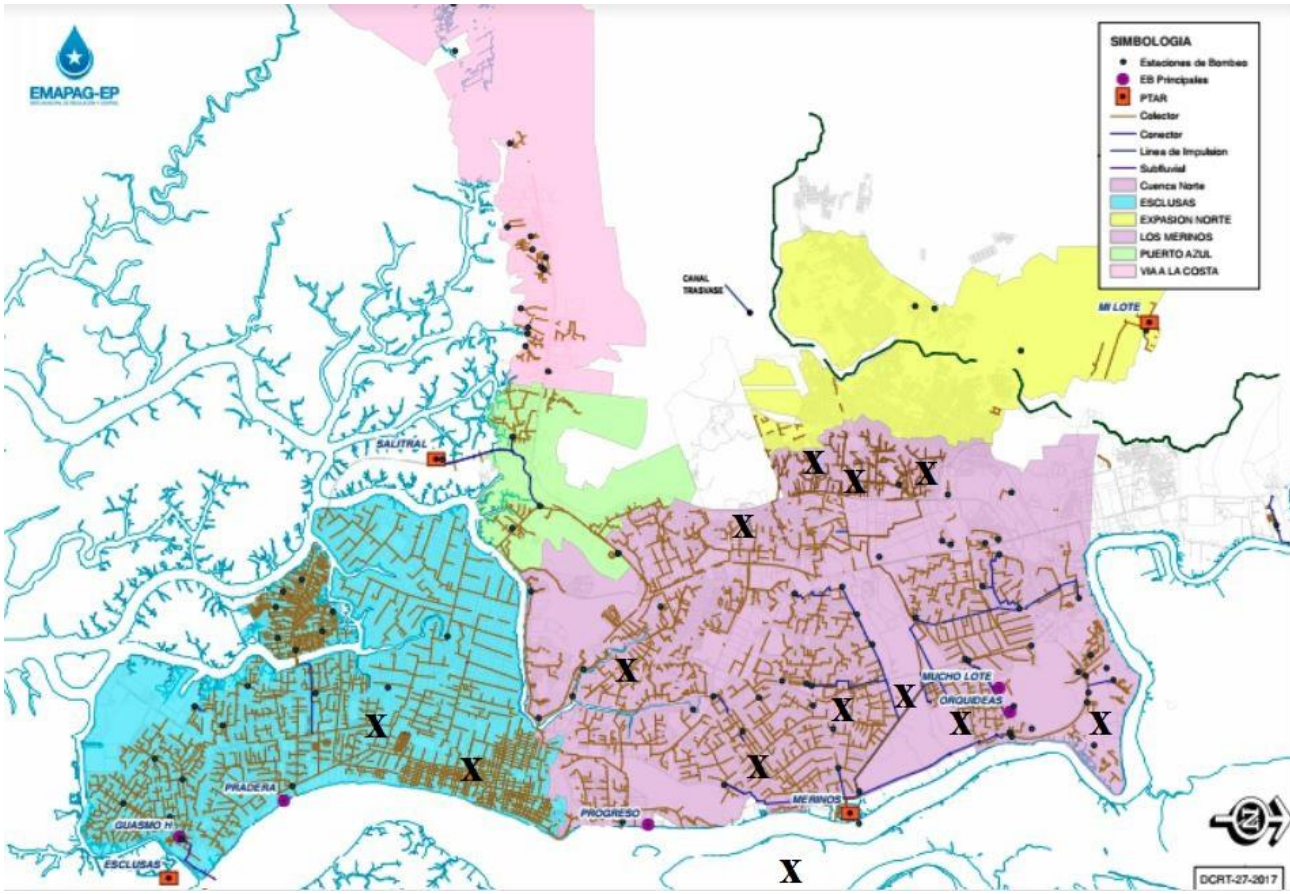


Figure 3: *Map over Guayaquil with a marking "X" where the households in the case study live. Source: EMAPAG-EP (2018 B), with "X" put by Josephine Biro.*

Figures 4-5: *Pictures of tap water after a seller has performed a demonstration with a device in a sales meeting to show the level of contamination. Photo: Josephine Biro.*

Figuers 6-8: *Taps, tanks and purifications systems that are used by households in Guayaquil. Photos: Josephine Biro.*